

Status of the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (currently amended) A lithographic apparatus, comprising:
an illumination system that produces a plurality of sub-beams of radiation;
a plurality of patterning arrays of individually controllable elements arranged in different predetermined positions in an object plane, wherein each patterning array patterns a respective sub-beam with a pattern, ~~the patterning arrays being spaced apart in an object plane~~;
~~a substrate table that supports a substrate~~; and
a projection system that projects the patterned sub-beams onto a substrate, such that the patterned sub-beams overlap to form a combined image on a target portion of the substrate,
wherein, based on the patterning arrays being arranged in different predetermined positions in the object plane, respective sub-beams arrive at different angles at a pupil plane, such that the combined image has a high numerical aperture.

2. (original) The apparatus according to claim 1, wherein the projection system comprises:
a plurality of field lens systems corresponding in number to the patterning arrays;
and
a common part, whereby the field lens systems form images of their respective patterning arrays in a pupil plane of the common part.

3. (original) The apparatus according to claim 2, wherein said projection system has an overall magnification of from about 1/2 to about 1/5.

4. (original) The apparatus according to claim 1, wherein said illumination system comprises a single radiation source from which the plurality of sub-beams are derived.

5. (original) The apparatus according to claim 4, wherein said illumination system further comprises phase adjustors in the paths of the separate sub-beams.

6. (original) The apparatus according to claim 1, wherein said illumination system comprises light guides that guide the sub-beams to their respective patterning arrays.

7. (original) The apparatus according to claim 1, wherein said illumination system comprises an optical system including one or more beam directing mirrors.

8. (currently amended) The apparatus according to claim 1, ~~further comprising~~ wherein the plurality of patterning arrays comprises two ~~a second~~ patterning arrays.

9. (currently amended) The apparatus according to claim 1, ~~further comprising~~ wherein the plurality of patterning arrays comprises four ~~second through fourth~~ patterning arrays.

10. (currently amended) A device manufacturing method, comprising:
producing a plurality of sub-beams of radiation using an illumination system;
positioning each patterning array of individually controllable elements in a plurality of patterning arrays of individually controllable elements at a different predetermined position in an object plane;

imparting respective ones of said sub-beams with a pattern using a the plurality of patterning arrays of individually controllable elements, such that each of the patterned sub-beams arrives at a pupil plane from a different angle; and

projecting the patterned sub-beams of radiation onto a substrate, such that the patterned sub-beams they overlap to and form a combined image having a high numerical aperture on a target portion of the substrate.

11. (currently amended) A method, comprising:
patterning individual beams of radiation generated from an illumination source using a respective individual patterning array in a plurality of patterning arrays of individually controllable elements, the patterning arrays being located at different predetermined positions spaced apart in an object plane, such that each of the patterned sub-beams arrives at a pupil plane from a different angle; and

overlapping the individual patterned beams to form a combined image on a target portion of a substrate, ~~whereby the patterned individual beams arrive from different angles~~ so that the combined image has a higher effective numerical aperture.